Peculiarities of the infectious status of children with different colitis variants and the possibility of integrated therapy with interferon-α preparation

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Objectives: To study the infectious status in children with different variants of colitis.

Methods: 101 children were examined with colitis from 1.5 to 15 years of age, of which 34 preschool children and 67 schoolchildren. In the main group, 59 children with IBD were identified, of which 22 patients with ulcerative colitis (UC), 5 with Crohn's disease (CD) and 32 with undifferentiated colitis. When examined in 42 patients, according to the morphological conclusion, eosinophils formed the basis of the colon mucosa infiltrate and these children were assigned to the group with eosinophilic colitis (EC). The control group consisted of 101 children with chronic constipation and intestinal microbiota disorder. In the control group of preschool children 34 children and 67 school-age children. To study the infectious status in children with different variants of colitis, an examination of the intestinal microbial landscape, shigela, yersinia and salmonella antibodies in the blood by ELISA to CMV, the Epstein Barr virus was carried out. In therapy against the background of standard therapy with the preparation of 5-ASA, the interferon-α preparation was used according to the scheme.

Results: Since it is now proven that patients with autoimmune diseases have a high HLA-B27 leukocyte antigen, which has an antigenic similarity to Yersinia, we examined patients with IBD, EC and comparison groups for the presence of intestinal infections. In the stools of pathogens, pathogenic microorganisms have not been identified. According to the RPGA, titers 1: 400 - 1: 800 are considered diagnostic for salmonellosis and yersiniosis. In the group of children with IBD and EC, elevated titles to Yersinia were more often detected in 47 children with IBD (79.6%) and EC in 31 children (73.8%), while in the comparison group only 24.7% (p <0.001). High ATs to nuclear AG and relatively low AT to capsid AG in the main group were detected in 100% of children, while in the comparison group only in a quarter (p <0.005). This may indicate an incomplete immune response to infection with EBV and the possibility of forming a chronic course of the disease in children with colitis. There was no significant difference in these parameters in children in IBD and EC. In the study of the cytokine status of patients with colitis, excessive secretion of IFN-γ (44.39 ± 22.56 pg / ml) and an increase in the induction of IL-1 and TNF-α synthesis were revealed, may be a consequence of immuno-inflammatory process in the intestine, significant differences in children with IBD and EC were not detected (p <0.5). These effects were not observed in children in the comparison group (p <0.001). Significantly ↑ IL-4 explains ↓ phagocytosis (↓ approximately 30% below normal) and ↑ total Ig E (↑ more than twice) in children with IBD and EC, even without weighting allergic anamnesis. A significant ↑ endogenous IL-1 IL-1RA antagonist and IL-10 in a group of children with IBD and EC (p <0.05) was noted as a compensatory mechanism that occurs against the background of an increase in pro-inflammatory cytokines. In the group of children with IBD and EC, ↑ IgG (15 ± 3.06 g/l) and ↑ IgM (1.63 ± 0.39 g/l) are noted in the serum, with ↓ serum IgA (0.76 ± 0.19 g/l). In the comparison group, IgM and IgG values are within the age limit, whereas IgA ↑ (p <0.001).

Conclusions: The inclusion of recombinant IFN-α in the therapy of IBD and EC is accompanied by a significant decrease in the level of proinflammatory cytokines IL-8, 6, TNF-α and normalization of the level of immunoglobulins (IgA, IgM, IgG, IgE) in the blood. In children who received 2 courses of interferon-α for 2 years, a significant decrease in the frequency of respiratory infections was noted, compared with the previous two years of follow-up. During the follow-up (10 years) of children with EC, 12 years after 3 years of diagnosis of UC, in 5 children with ulcerative colitis after 5 years - CD.

Biography
Berezhnaya Irina Vladimirovna is an Associate Professor of the Department of Pediatrics of the Russian Medical Academy of Continuing Vocational Education.

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